W5YI

Nation's Oldest Ham Radio Newsletter

REPORT

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★ *In This Issue* ★

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FCC Holds Commercial Radio Testing Conference

Representatives of all nine COLE (Commercial Operator License Examination) Managers met with the FCC on November 18th. It was their second annual conference - and the first since the beginning of privatized commercial radio operator testing.

The meeting was held in the press room at the FCC's Auction site in downtown Washington, DC. This is where the FCC sells radio spectrum to the highest bidder. The rather elaborate Auction site consists of a registration and public seating area ...and 20 "bidding booths." Each booth is outfitted with a PC and modem running special auction software ...and a laser printer.

In attendance at the COLEM Conference were representatives of Drake Training and Technologies, Electronic Technicians Association International, Inc. (ETAI), Elkins Institute, Inc., International Society of Certified Electronics Technicians (ISCET), National Association of Business and Educational Radio, Inc. (NABER), National Radio Examiners (a division of the W5YI Group), Sea School, Sylvan Learning Systems, Inc., and the National Association of Radio Telecommunications Engineers, Inc. (NARTE).

In addition, more than a dozen FCC officials attended from their Washington, DC headquarters and Gettysburg, PA licensing facility. The meeting was ably moderated by FCCs Ms. Joy Alford.

Branch chief, John B. Johnston started things off by presenting a review and assessment of the COLE Manager system.

He congratulated the COLE Managers, "It is working. Commercial radio operators are taking the exams. They are passing the exams -- some of them at least. They are getting those licenses."

Some of the points Mr. Johnson made during his address included:

1. All commercial radio operator examinations are now administered by the COLE System. "Our Field Operations Bureau has completely discontinued administering examinations."
2. In the first year of operation, September 1993 through September 1994, 19,358 examination elements were administered to 1,688 people. The overall rate of passing was 84.33%.
3. There have been very few complaints, especially about the lack of testing opportunities.
4. "...we want the COLE Manager System to gain the respect of the commercial operator community and its employers. We want it to enjoy a reputation for having a very high degree of integrity." Johnston conceded that "...this has been a rough year for amateur operator examinations. Cheating is on the rise, and we had to step in on several occasions. ...it seems as though 99 percent of the problems in that [VEC] system are caused by one percent of the people."
5. There are two types of reports that COLEM's must complete. The Quarterly Public Service Activity Report (QPSAR) covers statistics on

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examination sessions and examinees. The Annual Financial Report includes total expenses and gross revenues for serving as a COLE Manager.

6. So far this year, the COLE System has "...served 11,088 examinees at 3,167 sessions."
7. A *Notice of Proposed Rule Making* adopted last June proposed that persons who have passed the required examinations and applied for a commercial radio operator license would be temporarily authorized to perform the functions of a commercial radio operator while awaiting their licenses. *PR Docket No. 94-58* recognizes that persons often need their licenses immediately as a condition of employment.

"Under the proposal, your PPC *(Proof-of-Passing)* document (the commercial equivalent of the CSCE, *Certificate of Successful Completion of Examination* used in the amateur service) would serve as proof that the person was qualified until such time as we deliver the license document." The comment period has closed and "We are in the process of preparing a *Report and Order* for the Commissioners to consider."

8. Johnston commented that there has been very little examination demand for the Morse written and telegraphy examinations. "Probably only 12 or so persons were served. Currently, the Communications Act requires many ships to have a licensed radiotelegraph officer on board, even if the ship is outfitted with a GMDSS system."

(GMDSS is a new satellite-based ship-to-shore automated radiocommunications safety system for ships. Ultimately, it will replace the current ship-to-ship safety system, which relies on a manual Morse code and voice radiotelephony.)

"We anticipate that the Congress will act in the near future, allowing vessels to essentially replace their radiotelegraph installations with state-of-the-art GMDSS installations. And as ships convert to the new safety system, they will no longer require licensed telegraph operators....

"With the full implementation of the GMDSS drawing nearer, we expect you to see a marked demand for Elements 7 and 9, while the demand for Element 5 and 6 should decrease."

9. Johnston said that the examinations for the General Radiotelephone Operator License (GROL) were by far the most widespread. "Elements 1 and 3 are the most popular. They are counted in the thousands. Elements 7, 8 and 9 are counted in the hundreds." For the prior year, pass rates are running between 77% and 90% for the various elements.
10. Last year, the total examination revenue received by the various COLEMs was $126,905. This was largely based upon exams administered during only the Fourth Quarter since the first question pools were not released until September 1993.

"Two COLE Managers were not even up and running. Dividing the revenue by the number of examinees shows an average [test fee] cost of $48.81 per examinee. The spread was $22.32 to $109.50. The average [test fee] cost per element administered was $30.27. The spread was $22.32 to $58.93."

(National Radio Examiners, Division: W5YI Group, charges a test fee of $35.00 per license - regardless of the number of exam elements required to obtain a commercial radio operator license.)

11. Johnston said that test fees may be decreased without FCC notification, but increases must be approved by the Commission. Services to the examinee may also be increased but not decreased without approval.

"If test fees need to be increased or services decreased, the COLE Manager must submit an interim financial report for the period January 1 to the date of your request. Your annual financial report might be a convenient time to make such a request," he said.

12. The Private Radio Bureau is in the process of being absorbed into the newly reorganized Wireless Telecommunications Bureau. "[Prior] References to the Personal Radio and Aviation and Marine Branches will probably be changed to the Private Radio Division and the Enforcement Division." (Bob McNamara, current Special Services Division Chief will head the Private Radio Division. The Enforcement Division Chief has yet to be named.)
13. The FCC's Forms Distribution Center phone number has been changed to (202) 418-3676. "Soon, all of our phone numbers will be changed."
14. A new instruction was added to the COLEM Standards prohibiting COLE Managers from releasing information concerning compliance problems until it has been made public or its publication or disclosure has been approved by the FCC.

PANEL DISCUSSION ON COLEM TOPICS

At this point Joy Alford led a panel discussion on several subjects that had been raised by various COLE Managers. Among them:

QUESTION POOL CONTENT: Several COLEM's remarked about the poor condition of the current

commercial radio question pools -- including the diagrams. NRE said they complete the question selection from the entire pool but choose to not ask some (faulty) questions. Bob McNamara said centralized coordination of bad questions was necessary. The FCC will issue a list of questions that should be dropped from the question pool. ETAI said the radiotelegraph questions were particularly bad and recommended revising Elements 5 & 6 first.

ELECTRONIC FILING: Walt Boswell, FCC, Gettysburg branch chief said the testing of electronic filing of amateur service applications was still in progress. A similar system will be implemented for Commercial Radio Operator licenses by the end of 1995. Licenses can not be granted until the regulatory fee is paid. A system linking fee and license processing will have to be developed. A suggestion was made that an additional fee should be authorized to cover any COLEM costs necessary to electronically file applications.

SUBCONTRACTING EXAMINATIONS: Both the Drake and Sea School COLEMs raised the question of having other organizations administering examinations for COLE Managers. Bob McNamara said the COLE managers are ultimately responsible for test integrity, no matter who administers the examination for them. No special rules or permission is necessary for a COLEM to subcontract test administration.

SPEED OF SERVICE: ETAI said they have had many complaints about Gettysburg's slowness in granting licenses. Walt Boswell said a new commercial radio data processing system is now being implemented which will greatly speed up license issuance. And the proposed temporary permit should resolve most timing problems. FCC is hoping for 4 - 6 weeks maximum turnaround with the new system and electronic filing.

Sea School wanted a direct telephone line installed for handling misplaced applications. Boswell said to FAX application information to him at Gettysburg if an emergency exists and he would handle.

TEN DAY APPLICATION HANDLING: ISCET said only 60-80% of exam paperwork could be turned around in 10 days and wanted the FCC to extend the time to 15 days. Bob McNamara said that the rules say 10 days but the FCC has not taken a hard line regarding enforcement of this time frame. The COLE Managers voted to retain the 10 day rule "...with flexibility when needed."

PUBLISHING QUESTION POOLS: Drake and ETAI questioned whether it was acceptable for COLE Managers to publish the question pool - complete with multiple choices and answers. FCC said nothing in Part 13 or Standards prevented such publication.

PRESENTATION BY FCC, GETTYSBURG

FCC's Walt Boswell said that the COLEM program has been incredibly successful and that commercial radio operator testing opportunities have increased dramatically. All licenses have been issued on applications received through October 12th. Extra staff is being put on to handle all applications received through October 31st.

COLEMs should advise applicants to expect a 4 to 6 week turnaround from the time their application is received in Gettysburg. Applications with attached regulatory fees take longer since they must be routed through the Mellon Bank in Pittsburgh. Electronic filing which should be in place by the end of 1995 will speed up license processing. The FCC is also looking into a system that will allow the public to access their licensing database. This should also be available by the end of 1995.

Boswell's assistant, Larry Weikert went over the proper completion and handling of the FCC Form 756 Commercial Radio Operator application. A common error is that the date of birth is often the current year.

If the applicant is applying for both the GMDSS radio operator and maintainer licenses, both blanks should be checked. A single GMDSS Radio Operator/Maintainer license will be issued. Only one $35.00 regulatory fee is due when both GMDSS licenses are applied for at the same time.

It also is helpful for the applicant to include his/her telephone number at the bottom of the application. Examiners should call 202-418-FORM (3676) to request large quantities of forms. Duplication of the FCC Form 756 application by the COLE Manager is authorized.

FORMATION OF QUESTION POOL COMMITTEE

FCCs Richard Swanson and Roger Noel moderated this discussion. The FCC admitted that the original pools were not perfect, but under the circumstances were the best that could be done given their limited resources. All commercial radio question pools now need to be reviewed, edited and updated.

FCC will appoint an FCC liaison from their Private Radio Division for the various COLE Manager Chairpersons to work with in updating the pools. Each Chairperson will gather input from other participants. These contributors may include experts from industry, government and the academic community. It will be the responsibility of the Chairperson to gather information from the various contributors, edit the current pool and to submit a new version of the pool in final form to the FCC.

Review and revision of the question pool will not

be done in person, instead mail, telephone, FAX, modem, and E-mail will be used. Those taking part in the question pool revision process are to be considered as "participants" and their activity will not be construed as that of a Federal Advisory Committee.

The FCC will review changes, settle disputes between participants and distribute revised question pools to the COLE Managers and release to the public.

The FCC preliminarily suggested a timetable of question pool revisions on a two year cycle:

	Committee Review		*FCC*
Question Pool	*Begins*	*Ends*	*Release*
Element 1	1/95	3/95	4/95
Element 3	1/95	3/95	4/95
Element 7	4/95	8/95	9/95
Element 9	4/95	8/95	9/95
Element 8	9/95	12/95	1/96
Element 5	1/96	5/96	6/96
Element 6	1/96	5/96	6/96

(1=Radio Law, 3=Electronics, 7=GMDSS Radio Operator, 9=GMDSS Radio Maintainer, 8=Ship Radar, 5=Basic Radiotelegraph, 6=Advanced Radiotelegraph.)

Your author (Fred Maia, W5YI) who heads up National Radio Examiners, explained how the Question Pool Committee (QPC) revision process works in the amateur service. Each of the five amateur question pools are reviewed and updated once every four years. The actual revision work is completed by MCI electronic mail and by question pool drafts on computer disks which are sent to those involved in the review process.

He stressed the importance of three timing factors that should be taken into consideration when releasing new question pools:

1. Related pools must be released simultaneously since they are taught at technical schools and covered together in license preparation publications.
2. There must be an implementation period between pool release and its use in exams in fairness to examinees, educators and the publishing community. All need time to prepare for the new pools before the new questions appear in examinations.
3. An adequate merchandising period of at least 3 years between revisions is needed. Shorter revision cycles present a severe hardship to publishers who need time to write, distribute and market their study textbooks.

QUESTION POOL DISCUSSION

Elkins wanted the pools revised as fast as possible, regardless of the burden to publishers. ISCET said the timetable should be changed to address worst elements first. Elkins agreed that Elements 1, 3, and 8 should be grouped together. They would like to see all pools reviewed together for the first time, then use a 3-year cycle. Elkins suggested 2 months to revise all pools which would be implemented 2 months later. ISCET believes 2 months is not enough time to revise the question pools "...4 months should be the minimum."

FCC suggested that perhaps revision of all question pools could begin on January 1, 1995 with work completion by the COLEM Coordinators by April 1, 1995. The FCC will make a decision on the question pool revision timetable.

All COLE Managers were asked to signal their willingness to participate in the question pool revision process, both as a Chairperson and a contributor. A discussion followed concerning the proper format for the questions. It was suggested that the pools be released in both ASCII and WordPerfect format with imbedded schematic diagram files.

The FCC said that they would like to put all Commercial Radio question pools on an Internet server ...complete with multiple choices, diagrams and answers identified.

1994 COMMERCIAL RADIO TESTING

The FCC released the 1994 commercial radio exam results (through September) at the conference.

COLEM	Total No. of Examinees	Total Elements	Elements Passed	Percent Passed
Elkins	4572	8713	7922	90.9%
NRE	2415	4125	3599	87.2%
ETAI	976	1237	982	79.4%
Sea Sch.	404	466	380	81.5%
ISCET	669	1229	946	77.0%
Drake	580	632	477	75.5%
NARTE	783	1381	1017	73.6%
Sylvan	581	679	494	72.8%
NABER	108	108	69	63.9%
TOTAL	**11088**	**18570**	**15886**	**85.5%**

Drake= Drake Training & Technologies, Bloomington, MN
Elkins= Elkins Institute/Dallas, TX
ETAI= Electronic Technicians Association, International/ Greencastle, IN
ISCET= International Society of Certified Electronic Technicians, Ft. Worth, TX
NABER= National Association of Business and Educational Radio, Alexandria, VA
NARTE= National Association of Radio Telecommunications Engineers, Medway, MA
NRE= National Radio Examiners/Dallas, TX (W5YI Group)
Sea Sch.= Sea School (Maritime), St. Petersburg, FL
Sylvan= Sylvan Learning Centers, Columbia, MD

AMATEUR RADIO CALL SIGNS

...issued as of the first of November 1994:

Radio District	*Gp."A" Extra*	*Gp."B" Advan.*	*Gp."C" Tech/Gen*	*Gp."D" Novice*
Ø (*)	AAØUA	KGØRD	(***)	KBØPLX
1 (*)	AA1LH	KD1XS	N1TKM	KB1BLE
2 (*)	AA2UO	KF2YO	(***)	KB2SFP
3 (*)	AA3IY	KE3PW	N3TSG	KB3BFG
4 (*)	AD4ZD	KS4HB	(***)	KE4SMC
5 (*)	AB5YQ	KK5EK	(***)	KC5KPV
6 (*)	AC6GZ	KO6KX	(***)	KE6NVP
7 (*)	AA7FV	KJ7FF	(***)	KC7GMT
8 (*)	AA8QX	KG8MV	(***)	KB8VMB
9 (*)	AA9MW	KF9QI	N9YZZ	KB9JBE
N.Mariana Is.	KHØO	AHØAN	KHØDO	WHØAAX
Guam	WH2H	AH2CY	KH2LO	WH2ANG
Johnston Is.	AH3D	AH3AD	KH3AG	WH3AAG
Midway Is.		AH4AA	KH4AG	WH4AAH
Hawaii	(**)	AH6NQ	WH6ZC	WH6CRL
Kure Is.			KH7AA	
Amer. Samoa	AH8L	AH8AG	KH8BJ	WH8ABB
Wake W.Peale	AH9C	AH9AD	KH9AE	WH9AAI
Alaska	(**)	AL7PV	WL7YU	WL7CHV
Virgin Is.	WP2P	KP2CD	NP2HR	WP2AHU
Puerto Rico	(**)	KP4XS	(***)	WP4MUA

CALL SIGN WATCH: *=All 2-by-1 "W" prefixed call signs have been assigned in all radio districts. **=All Group A (2-by-1) format call signs have been assigned in Hawaii, Alaska and Puerto Rico. ***=Group "C" (1-by-3) call signs have now run out in radio districts except call area 1, 3 and 9.

[Source: FCC, Gettysburg, Pennsylvania]

• An excellent story entitled ***CD-ROMs for the Radio Amateur*** appears in the Fall 1994 ***Communications Quarterly*** magazine put out by CQ magazine.

Author Brad Thompson, AA1IP explains CD-ROM technology in very understandable terms. Basically a compact-disk drive focuses an infrared laser beam through a plastic coating and reads "bumps" as ones-and-zeros along a 470 meter long spiral path stamped into a reflective metal layer. A photodiode converts the reflected beam into an electrical signal.

The 1,400 ones-and-zeros per millimeter translate into 650 megabytes of data ...about the same as 450 1.44 MB high density 3½" floppy disks. And compression/decompression software techniques can double the storage capacity of CD-ROM disks.

CD-ROM drives are more expensive than audio CD players since they must read the data more accurately. CD-ROMs offer software manufacturers a low cost alternative to stacks of floppy disks. Double, triple and quadruple speed drives transfer data faster.

EMERGENCY BROADCAST SYSTEM REPLACED!

Twenty second tone gets reduced to eight seconds

After more than three years of consideration, the FCC has acted to replace the current Emergency Broadcast System (EBS) with a new Emergency Alert System (EAS.)

The digital EAS will work with both new and established communications technologies, including satellite, broadcast and cable, to make the disaster warning system more effective. The new EAS emphasizes speed, reliability and efficiency.

The Commission said "...the new system will have the ability to alert the public more quickly and reliably than the old EBS and will reduce property damage, injuries, and deaths caused by natural and man-made disasters."

Broadcasters were required to take part in the old EBS and likewise must participate in the new EAS. The 1992 Cable Act mandated that cable operators join the Emergency Alert System.

The participation of smaller cable systems, satellite and other public service providers, however, will be voluntary pending resolution of a *Further Notice of Proposed Rule Making* adopted on November 10th.

Major new features of the EAS include:

1. a digital system architecture that will allow broadcast, cable, satellite and other services to send and receive alerting information;
2. multiple source monitoring for emergency alerts;
3. a shortened (minimum 8 second) alerting tone;
4. automated and remote control operations;
5. a weekly (inaudible) test that is unobtrusive to viewers and listeners, as well as a monthly on-air test;
6. ability to issue alerts in languages other than English;
7. provisions for the hearing and visually impaired;
8. prohibition of the false use of the codes and the alert signal; and
9. a mandated standard for sending messages.

Radio and television broadcasters will be required to replace EBS equipment with EAS equipment by July 1, 1996. Stations also will need to modify their current equipment to decode the 8-second version of the present EBS tone by next summer. It is expected that new EAS decoding modules will cost radio broadcasters about $1,000, television broadcasters somewhat more.

Because the cable industry is new to automated emergency alerting, the Commission granted cable systems an additional year (to July 1, 1997) to install "video interrupt" EAS equipment.

MICROSOFT INTRODUCES "WINDOWS 95"

Software giant Microsoft did what everyone expected they would. They introduced "Windows 95" at the Comdex/Fall '94 show held in Las Vegas. That convention drew some 200,000 people.

And if you thought the introduction of Windows 3.1 was big, just wait for Windows 95. A new global branding campaign will feature massive television, print, direct mail and in-store promotions. Windows 95 is expected to hit the stores in the first half of next year. Most industry analysts agree, however, that Windows 95 will not overtake sales of Windows 3.1 until 1996.

Microsoft will not only offer Win-95 at a low price, but will be quick to market several application programs (like word processing) that take full advantage of the power of their new operating system. Microsoft has a big advantage. They know what's coming. Competitors have yet study Windows 95.

The bottom line is you can expect Microsoft - which accounted for 38% of all application program sales this year - to extend their lead in the lucrative applications market even further. Software developers are already screaming "unfair competition."

Observers note that the new product does not look much different from the existing Windows. Many buyers will wait to see how it goes ...and to be sure that Windows 95 is a bug-free product.

The Microsoft Network

And as predicted here, Microsoft is bundling a free subscription to it's new online service -- now officially called "The Microsoft Network" -- with its updated operating system. At least 30 million copies of Windows 95 is expected to be sold. That means 30 million people get entry into the Microsoft Network. That's fifteen times greater than the largest consumer online service operating today!

Microsoft's merchandising strategy has caught the attention of online market leaders, Prodigy, America Online and CompuServe. They believe Microsoft is using "anti-competitive practices" to gain entry into "their" market. Microsoft is already! under anti-trust investigation. The justice dept. is looking into whether their acquisition of Intuit and their popular Quicken program constitutes a monopoly. (Quicken owns about 80% of the home finance software market.) It now appears that Microsoft will be under close scrutiny again. Such is life when you are the biggest ...and the best.

The Microsoft Network is due to begin operating next year in 35 countries and 20 languages creating the first global online consumer service. Eventually users will be able to select what region on earth they want to reach. A Microsoft Network "beta copy" demo ran non-stop at Comdex.

Microsoft will deliver some of the services -- such as entry into the Internet, provide online support for its software products, offer e-mail and access to various encyclopedias and dictionaries. An electronic newspaper will run on a pay-per-view basis ...or by subscription.

Surprisingly, we heard that the service will not carry outside advertising ...at least not at first. In what amounts to free advertising, Microsoft will use the service to promote its own software and services.

Through an attractive revenue sharing arrangement and a new development tool (code-named "Blackbird") outside "high profile content providers" will anchor much of the new online service. We heard that Dow Jones, Reuters and Ziff-Davis ...and other major media companies had already signed up. Although no one is talking, Ziff-Davis' new "Interchange" online service could end up as being part of the Microsoft Network. Bill Gates is even rumored to be working with Hollywood on interactive programming.

For competitive reasons, Microsoft is not saying how much the new service will cost subscribers, but our understanding is that it will be less than the $10 a month average charged by competitors. We heard a $5 and an $8 monthly rate being tossed around. There is even talk that the service providers might dictate the cost on a per hour or per minute subscription basis.

Microsoft will use more than 200 Digital Equipment servers to run its online network, AT&T and Sprint will handle the telecommunications.

- Wal-Mart, working with Home Shopping Alternatives of Bethesda, Maryland will begin **online ordering of general merchandise and groceries** in January. There will be a $6.95 delivery charge regardless of the order size. Surprisingly, tests show that the average order for home delivery is larger than in-store purchases. The new service is aimed at dual-income families who have trouble shopping during the day.

- **Faxes by television!** NBC will begin using the vertical blanking interval of its TV broadcast signal to transmit a new **NBC Data Network** service. At least one company (Faxcast Broadcast Corp.) will use the encrypted service to simultaneously distribute facsimile to an unlimited list of recipients. The data network will be broadcast by NBC's owned stations ...with affiliates given the opportunity to be a part of the network.

- **Cable TV giant, Tele-Communications Inc., has formed a new company called CyberMedia** to develop interactive products ...and an online computer and broadband TV network.

FCC OPENS UP NEW RADIO SPECTRUM FRONTIER

Your Nov. 1st W5YI Report announced the FCC's new initiative to open up the millimeter wave bands to new uses (ET Docket 94-124). On Nov. 8, the Commission released the details of its proposal. We believe it could present opportunities for amateurs to develop commercial products and even to bid for licenses for some of the new bands.

That's right - the FCC, which already has reaped a $1 billion-plus windfall for the government by auctioning licenses in other bands, proposes to continue this practice and issue millimeter wave licenses to the highest bidder. Yet it also proposes to make some of this spectrum available for unlicensed, low-power (about .25 W EIRP) products and for vehicular radars.

The millimeter wave spectrum is considered to be between 30 and 300 GHz, where wavelengths range between one and ten millimeters. Because of the large amount of bandwidth available in the millimeter wave spectrum, transmission of data rates of 50 to 5000 megabits/second are possible depending on the frequency band used.

"These new frequency bands will permit the development of short-range wireless radio systems with communications capacities approaching that now achievable only with coaxial and optical fiber cable," the FCC said.

"Such systems could support many short-range applications that require very high bandwidth or data transfer rates. Uses could include applications involving the National Information Infrastructure (NII); educational or medical applications such as remote wireless access to libraries or other informational databases; and non-communications uses such as automobile radar systems to avoid collisions."

The spectrum above 40 GHz is generally unused at the present time. Even though the FCC has allocated spectrum up to 275 GHz, it has not adopted rules to permit general use of the spectrum above 40 GHz. Military applications for this spectrum exist, however, including guidance systems, radar and remote sensing. The Defense Department's Advanced Research Projects Agency (ARPA, also a key packet radio and TCP/IP developer) spent over $550 million in the Monolithic Microwave Integrated Circuit (MMIC) program in order to decrease the production cost of this technology.

"The propagation of millimeter wave radio signals is more limited than that of radio signals at lower frequencies," the FCC noted. "Signals in the millimeter wave bands are significantly affected by the presence of oxygen and water vapor within the atmosphere. Absorption and scattering caused by oxygen and water vapor limit the range of millimeter wave transmissions to a few kilometers almost regardless of the power used. ...Rain, snow, hail and fog can all affect the range of millimeter wave transmissions.

"While the limited range of such transmissions might appear to be a major disadvantage, the ability to reuse frequencies within very short distances will allow a higher concentration of transmitters to be located in a geographical area than is possible with lower-frequency transmitters."

Vehicle radar bands

Automobile manufacturers around the world are interested in this obscure area of the spectrum, for anticollision radar devices. In experimental use on buses, these products have reportedly proven their worth and even aided in accident reconstruction. (Some of the radars triggered drivers' police radar detectors, an annoying side effect.)

In response to automobile manufacturer requests, the FCC proposes to allocate 47.2-47.4, 76.0-77.0, 94.7-95.7 and 139.0-140.0 GHz to vehicle radar. No other uses would be permitted in these bands, except for 76-77 GHz which also is allocated to Amateur Radio. The FCC said this allocation and its rules in Part 97 are not affected.

Video use expected for licensed bands

The FCC proposed to authorize these bands to a Licensed Millimeter Wave Service (LMWS): 40.5-42.5, 47.4--48.2, 71.0-71.5, 84.0-84.5, 103.0-103.5, 116.0-116.5, 122.0-122.5, 126.0-126.5 and 152.0-152.5 GHz.

The Commission said it believes that many uses of millimeter wave spectrum are likely to be similar to the 28 GHz Local Multipoint Distribution Service (LMDS) now under separate consideration. The LMDS, sometimes called "cellular cable" (not to be confused with "wireless cable") is a broadband, multi-transmitter video broadcast service that could compete with cable TV. The FCC has proposed two LMDS licenses in each area, and because the FCC proposes to apply similar rules to LMWS, there would be two LMWS licensees per band in a given geographical area. LMWS auction winners would receive licenses good for ten years.

Unlicensed devices

Under Part 15 of the FCC Rules, unlicensed devices (other than vehicle radars) would receive these millimeter wave bands: 59.0-64.0, 71.5-72.0, 84.5-85.0, 103.5-104.0, 116.5-117.0, 122.5-123.0, 126.5-127.0, and 152.5-153.0 GHz. The 59.0-64.0 GHz band in particular has high propagation losses due to absorption by oxygen.

Explaining its reasoning in proposing to allocate these bands to unlicensed rather than licensed use, the FCC said, "Our experience with the Part 15 spread spectrum rules and with unlicensed 2 GHz PCS has shown us that there is potentially significant demand for unlicensed devices, some of which involve the application of military technology to novel commercial uses."

RF safety

The FCC requests comments on its proposed power levels for millimeter wave devices. It suggested that it could permit higher power levels if the devices have design features that preclude excessive human exposure to RF energy. For example, a transmitter could automatically turn off if a person comes too near the antenna, or could include protective enclosures that keep people at least a certain distance from the antenna.

Comments on the FCC's millimeter wave proposals are due Jan. 30, 1995, with reply comments: March 1, 1995.

WORLD CLASS BROADCASTING FROM ANGUILLA

A tiny Caribbean island covering only 36 square miles, Anguilla is known for its white sand beaches and great DX (VP2E) location. Amateurs on Anguilla and St. Maarten (PJ7/FS5) are very concerned that this could all come to an end ...or worse.

The British government has granted an international broadcast license to Caribbean Beacon Limited and agreed to improvements that will increase their radiated power and range many times.

Local amateurs believe that images and harmonics from their expanded medium and short wave stations will raise havoc on the ham and marine bands.

The Caribbean Beacon radio station has been broadcasting for more than a decade on 690 and 1610 kHz AM with 50,000 watts of power into a single non-directional tower. Even with this configuration, there have been reports of interference to radio and telephone communications in the area.

Now "The Beacon" - as it is known - wants to expand to reach a worldwide audience. They will be increasing power and adding international shortwave broadcasting to reach most of the South, Central and North American continent.

To improve its night time medium wave coverage towards North America, the Beacon will be increasing their transmitter power on 1610 from 50 to 200 kilowatts.

In the United States, 50 KW is the maximum for AM broadcasting ...and 100 KW for FM. Most stations are under these levels to alleviate interference and to limit possible health hazards.

A recently purchased medium wave folded dipole antenna (from *Kintronics Labs* of Bristol, Tennessee) will be supported by four aluminum towers, each over 300 feet high. The overall gain of the antenna is 12.5 db above isotropic. That calculates out to an ERP (effective radiated power) of 3.5 megawatts on 1610 kHz!

Caribbean Beacon's objective is to establish Anguilla as a World Class Voice in the international radio bands. Toward that end, Beacon Radio has also bought at least one 100 kilowatt HF transmitter (tunable from 5.95 to 22 MHz) from *Continental Electronics* here in Dallas, Texas.

Their HF antenna will be a log periodic designed and manufactured by British-based *Technology for Communications International* of Sunnyvale, CA. The 14.5 db gain antenna consists of two 145 foot towers which support two horizontally polarized log curtains aimed at most of Central and North America. The ERP of the log periodic in the direction of the main beam will be 2.8 megawatts. TCI manufactures antenna systems for military and International Broadcast organizations such as the Voice of America and the BBC.

An environmental impact study concludes that RF interference to electronic equipment will not be a problem since both antennas "...take advantage of skywave propagation." Ground wave (local) radiation will be minimal.

Up until this point, The Beacon has been used essentially for religious programming with some news and advertising included. Its broadcast range primarily includes the Caribbean, but can also be heard in the United States. Its new capacity will make Caribbean Beacon the most powerful broadcast station in the world.

Residents of Anguilla are basically opposed to the new stations - fearing their possible negative impact on tourism, land values ...and the concern over health hazards from electro-magnetic radiation. Locals feel that Anguilla's gains from the expansion are minimal compared to the possible adverse effects.

They also want to know why Anguilla has been chosen for this project ...and the real story behind Beacon Radio's recent donation of an ambulance to the Government of Anguilla. ("What does Beacon know that we don't?")

The government disagrees. The believe the expanded broadcast project will greatly benefit the local economy on the island. For one thing, Caribbean Beacon Limited will become the largest user of electrical power in Anguilla. They also believe the international broadcast station will improve publicity, tourism and the economy by establishing Anguilla on a world class basis.

- **The ARRL's 1995 HANDBOOK for radio amateurs is new from the ground up!** Published October 1994, its thirty chapters begin with "What is Amateur Radio?" and Activities ...and ends with Regulations and References. Cost: $30.00 plus $4.00 shipping. Telephone ARRL Publication Sales at: (203) 666-1541.

- As a result of more than 6,500 cable TV rate complaints, **the FCC has ordered several cable operators to refund more than a million dollars to subscribers** for overbilling. Among them were Viacom Cable, Comcast, Warner Cable, Cox Cable and United Cable.

On September 1, 1993, the FCC ordered a 10% reduction in cable rates. An additional 7% reduction was ordered on May 15, 1994. Under a benchmark system, an operator's rates are compared to benchmark levels, which approximate the rates that would be charged by similar systems which are subject to effective competition. The reductions were ordered due to excessive charges.

The 1992 Cable Act permits subscribers and local city authorities to file complaints challenging the compliance of a cable operator with rate regulations.

NEW ZEALAND NATIONAL SOCIETY ASKS THAT THEIR POSITION ON MORSE CODE BE CLARIFIED

We received the following electronic mail from the American Radio Relay League on November 15th.

"I have been asked by the NZART to forward this to you. 73, David Sumner, K1ZZ, Exec. Vice Pres. ARRL"

A STATEMENT ABOUT THE MORSE CODE AND AMATEUR RADIO IN NEW ZEALAND

Suggestions that New Zealand may imminently propose changes to the ITU Radio Regulations affecting amateur radio are without foundation.

The New Zealand Association of Radio Transmitters Incorporated is the IARU member-society for New Zealand. Founded in 1926, NZART is recognised by the New Zealand administration, the NZ Ministry of Commerce, as the body representing Amateur Radio in New Zealand.

The Morse code requirement for radio amateurs has been a topic for discussion within New Zealand for many years. Since 1963, New Zealand has had a very successful "codeless licence" for operation above 30 MHz. About one-third of New Zealand radio amateurs hold this "codeless" licence. To operate below 30 MHz, a Morse test must be passed.

A nation-wide membership survey about Morse code was conducted by NZART early in 1993. The diverse input received was used to develop the NZART Policy on Morse code.

This Morse code policy wording was circulated to all NZART members by way of a remit for consideration at the Annual NZART Conference held in June 1994. This wording was voted on at local NZART Branch meetings. Branch Delegates then jointly reviewed the Policy at the NZART Annual Conference. Conference unanimously supported the wording as contained in the Policy.

This policy supports the continuation of the requirement for competency in Morse code as a prerequisite for radio amateurs for operation below 30 MHz.

From the beginning of the survey to the final adoption took 18 months. Every step was open to input from the membership and for review. Every member received the survey and the results. Every member received a copy of the Policy before it was adopted.

The NZART Policy on Morse code was presented in a paper to the IARU Region 3 Conference at Singapore in September 1994 where the matter was debated. The Conference endorsed a recommendation that the "status quo" as set out in the ITU Radio Regulation RR 2735 be continued. This completed a world-wide consideration by the three IARU Regional organisations of the Morse code requirement.

Following the IARU Region 3 Conference, the IARU Administrative Council met. The IARU AC resolved "to neither propose nor support any change to the international radio regulations pertaining to Morse code".

NZART has reported these developments to the Ministry of Commerce (the New Zealand Administration). The Minister of Communications has assured NZART that "New Zealand will not actively make proposals for changes to the International Radio Regulations, as they affect the amateur service, until such time as there is evidence of significant opinion here in New Zealand, and/or overseas, to support modification of Article 32".

To fulfil a requirement of the adopted NZART Policy on Morse code, NZART Council is conducting a realistic review of the amateur radio licence grades, the written examination syllabus and its structure, and the Morse code testing procedures. Council has established an Examinations Working Group to prepare the appropriate review documents.

A review of the Morse testing procedures has received priority because it is recognised that a changed test environment will satisfy many of the NZART members' concerns. It must be remembered and respected that NZART, with its diverse membership interest, will have members who will continue to hold diverse views about Morse code.

Summary:
The official New Zealand position on Morse code in the Amateur Service is for "no change".

The NZART Council is

- cognisant of members' concerns about the examinations and Morse code,
- implementing the outcome of a review of the Morse code test procedures, and
- supporting the Examinations Working Group to review both the written examinations and the grades of New Zealand licence with the intention of commencing discussions with the New Zealand Administration on all these issues, and
- requesting the NZART Overseas Liaison Committee to monitor any overseas movements in these areas.

November 1994

Inquiries to:
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RESPONSE TO NZART POSITION FROM ORACLE

The NZART message relayed to us by the ARRL is apparently in response to two stories that we did on the activities of ORACLE, the New Zealand Organization Requesting Alternatives by Code-Less Examinations, Inc. This group favors replacing the Morse requirement for amateur operation under 30 MHz.

Via the Internet, I shipped the NZART Statement about Morse code in New Zealand down to ORACLE's six managers and asked for their response. Their answer is too long to print here, but here is a summary of what they sent both by E-mail and regular (snail) mail.

- A copy of a letter from the Government of New Zealand indicates that they have not made a decision on whether or not they will support the NZART position. Jim Meachen ZL2BHF is President of NZART. (I met him, by the way, at the 1994 Dayton HamVention.)

In a September 19th letter to the Hon. Maurice Williamson, New Zealand Minister of Communications, Meachen said that the *International Amateur Radio Union* adopted a worldwide "no change" policy regarding the current ITU Morse Code requirement that telegraphy knowledge be required by amateurs operating below 30 MHz. Follows is a quote from that letter:

"It is therefore suggested that the New Zealand position on Article 32 and RR2735 of the ITU Radio Regulations, at coming conferences of the ITU should be:

1. to not actively seek any change to the current text of Article 32 or to RR2735 at this time.
2. to support NO CHANGE (NOC) to the test of Article 32 and to RR2735 should this subject arise during the proceedings of an ITU conference, and
3. to review this position at such time when future technical developments can provide an alternative means for ensuring intercommunication on the limited HF spectrum allocated to the Amateur Service, or when increased HF spectrum for the Amateur Service should become available.

"Your confirmation of this as the New Zealand position would be appreciated. ...signed, J.A. Meachen ZL2BHF, President NZART"

- The Minister of Communications answered the letter as follows:

"Dear Mr. Meachen,

Thank you for your letter of September 19th and the additional information with respect to the Morse code and amateur radio.

While I acknowledge the stance taken by your *International Amateur Radio Union* members, and the New Zealand society, on the question of the retention of the Morse code requirements, I am of the view that it would be unwise to adopt the three very precise positions which you postulate.

I am advised, and believe, that the amateur service worldwide is a progressive body of enthusiasts, who look to the future for self-training, intercommunication and technical investigation. To adopt such a rigid stance on the matter of the value, or indeed, in the opinion of some, the low value of Morse code as a means of intercommunication is, in my opinion, contrary to the progressive nature of the hobby.

Having said that, I can give you an assurance that new Zealand will not actively make proposals for changes to the International Radio Regulations, as they affect the amateur service, until such time as there is evidence of significant opinion here in New Zealand, and or overseas, to support modification of Article 32. (signed) Hon. Maurice Williamson, Minister of Communications."

- It is clear from this exchange of letters that the Government of New Zealand has not yet adopted the NZART/IARU position. On Nov. 20th, the ORACLE managers sent us a lengthy response to the NZART statement. Basically they contend:

1. The NZART opinion does not reflect the New Zealand position on Morse code. Instead it reflects the conservative view as seen from inside their national society.

2. The letter from the Minister of Communications shows that the New Zealand Government has a more progressive view of amateur radio than appears to be the case for NZART or IARU on Morse code policy.

3. The letter indicates that there can be a change of position when significant evidence regarding Morse code is produced.

4. Hearings being conducted by the New Zealand Government are still in progress. The largest submission of evidence to date from ORACLE was not finalized until November 17th, which will be shortly filed. ORACLE believes it can win the debate.

5. It is expected that the New Zealand Government will be able to consider the differing positions and reach a decision in the near future on national and international policy.

6. ORACLE has an expectation of a decision in its favor of an international regulatory change relative to Morse code testing.

7. NZART management appears to be unable to admit that there is a significant opposition by New Zealand amateurs and would-be-amateurs to NZART conservative policies on Morse code testing. The opponents include many NZART members.

8. "ORACLE was formed as a natural reaction to ongoing excessive conservatism within NZART. Having a recognized independent voice to lobby for change has made a large impact. Much progress has been made in the few months since we formed and became active."

9. "NZART can conduct as many reviews and changes to the method of Morse testing as they choose, and that will not change the position that many amateurs want a choice in the syllabus. Tinkering with Morse testing is not the answer. Adding suitable alternative tests is the answer."

ORACLE Response signed by: Anthony Cole ZL2AZJ, Grahame Love ZL2TBK, John Runsey ZL2LZ, Bob Vernall ZL2CA, Terry Waghorn ZL2AYY and David Walker ZL2BHE